

## ABSTRACT

The invention relates to a non-invasive method to diagnose the changes of molecular structures of organism tissues from body surface and a dedicated apparatus. The apparatus is comprised of a Fourier Transform infrared spectrometer and a set of additional accessories. Said additional accessories include a mid-IR fiber optics sampling attachment, a fiber coupling part, and an infrared detector part. The detection method is comprised of placing the ATR probe of the dedicated apparatus on the skin surface of a region to be tested, and scanning more than one time in which the resolution of the apparatus is  $1\text{-}32\text{ cm}^{-1}$  and the range of the spectrum is  $800\text{-}4000\text{ cm}^{-1}$ . It is possible to detect changes in molecular structures of living biological tissues in the early stages of cancer, and testees will not feel uncomfortable during testing. The method is easy to operate, quick, accurate, and it doesn't harm the body.